



Background

Up to 75% of breast cancer survivors experience cognitive deficits.¹

Only 8/24 studies found a significant relationship between objective and subjective cognitive assessments.²

Subjective tests assess a subject's self-reported, perceived cognitive function. Subjective tests are the more common way of assessing cognition because they are easier to administer.

The differences between objective and subjective cognitive tests makes it difficult to standardize cognitive assessments/diagnoses in this population.

Objectives

To determine whether there is a correlation between objective and subjective cognitive function in breast cancer survivors.

Methods

A secondary analysis was done with data from the Memory & Motion study, which was conducted at the UCSD Moores Cancer Center (2015-2017; n=87).

Subjective cognition was measured with patient reported (PROMIS) surveys. Objective cognition was measured using tests from the NIH Toolbox.

Linear regression models were used to test for correlation between objective function and subjective cognitive abilities and objective function and subjective cognitive concerns.

Results

Table 1. Participant Characteristics (N=87)	N (%)
Pathologic Stage	
Stage 1	53 (61%)
Stage 2	27 (31%)
Stage 3	7 (8%)
Cancer Treatment	
Chemo	46 (53%)
No Chemo	41 (47%)
Average age	57 years
Average years since surgery	2.5 years

Figure 1. Correlation: objective cognitive function & subjective cognitive concerns scaled scores

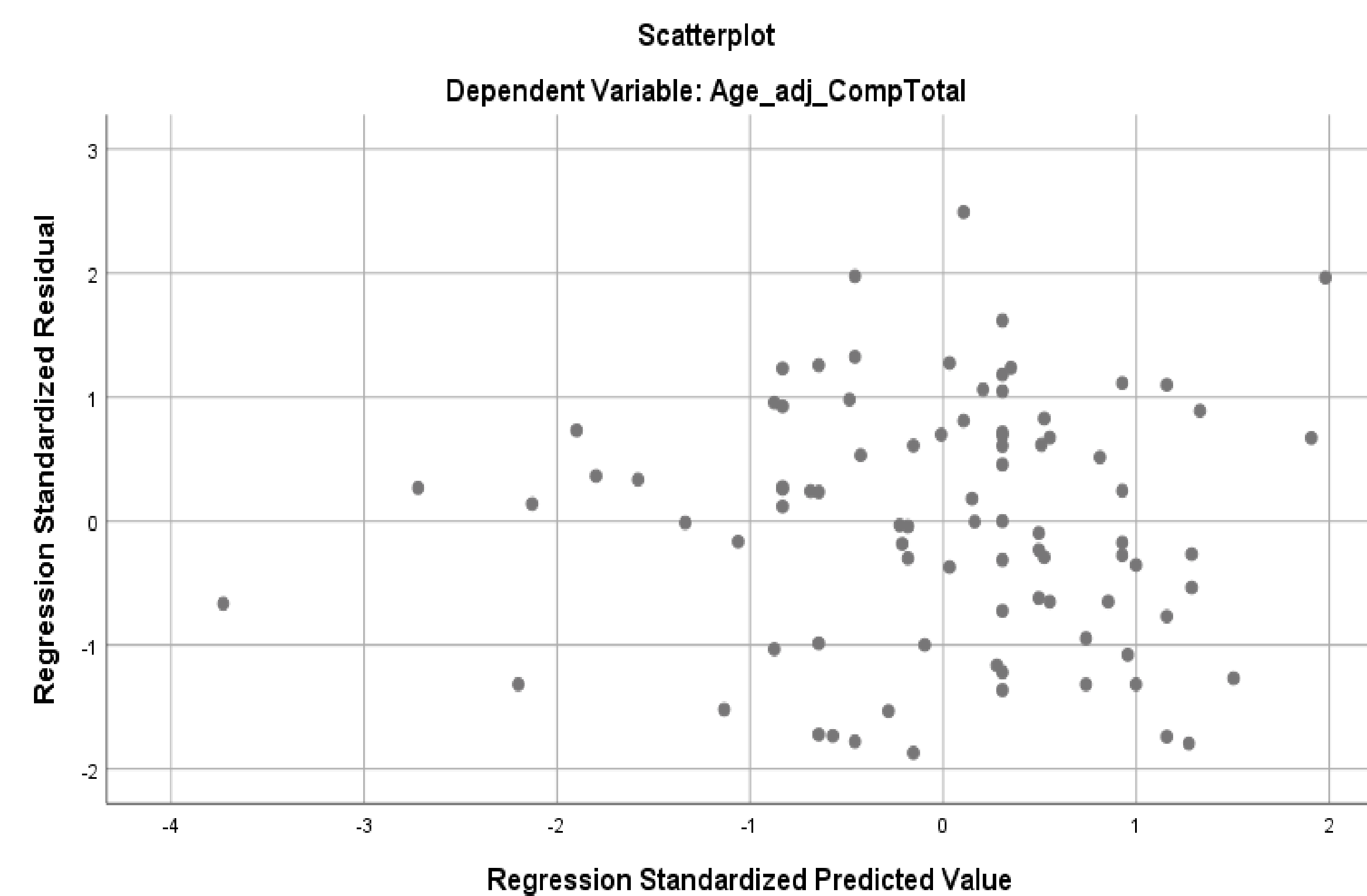
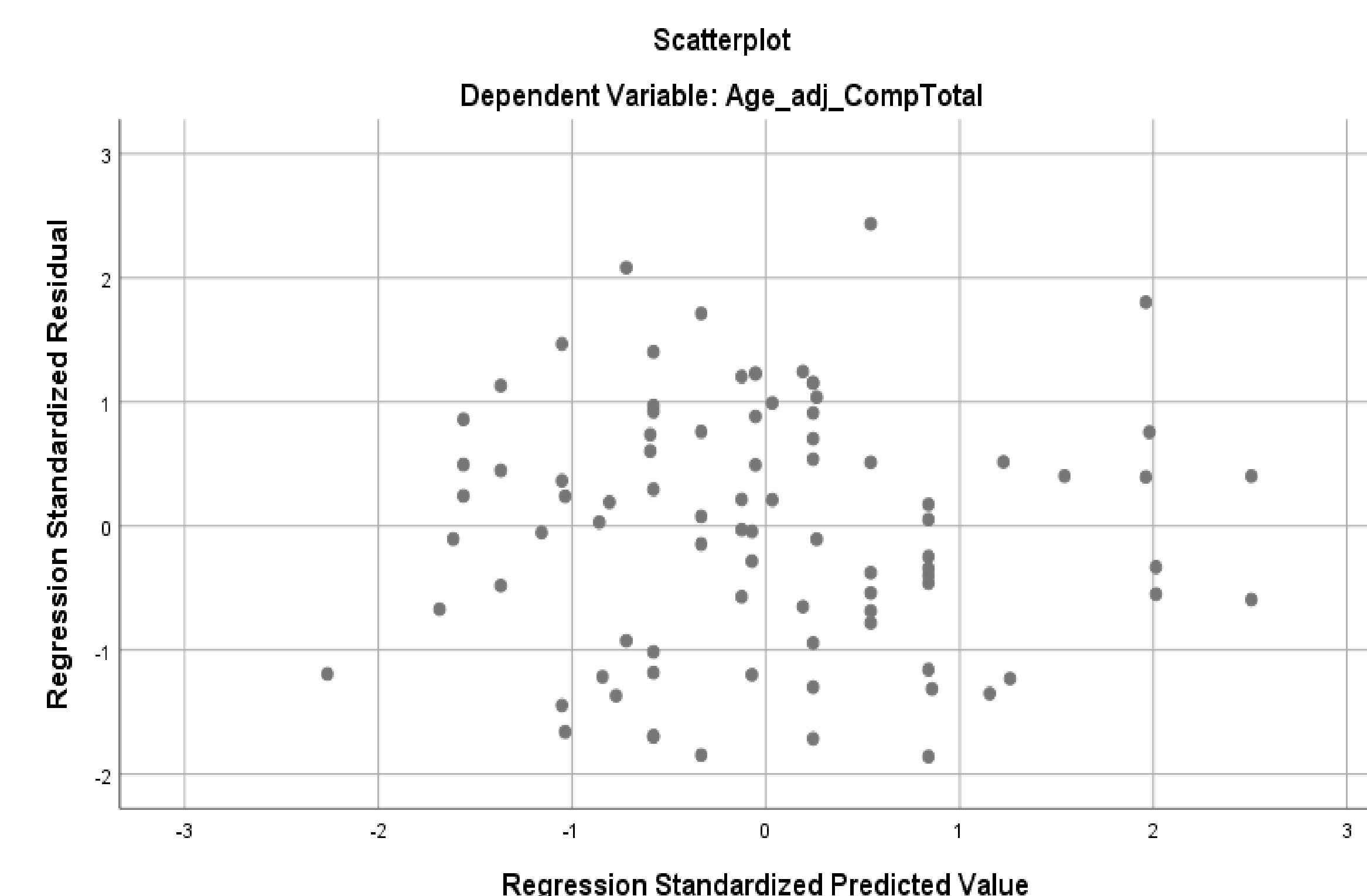
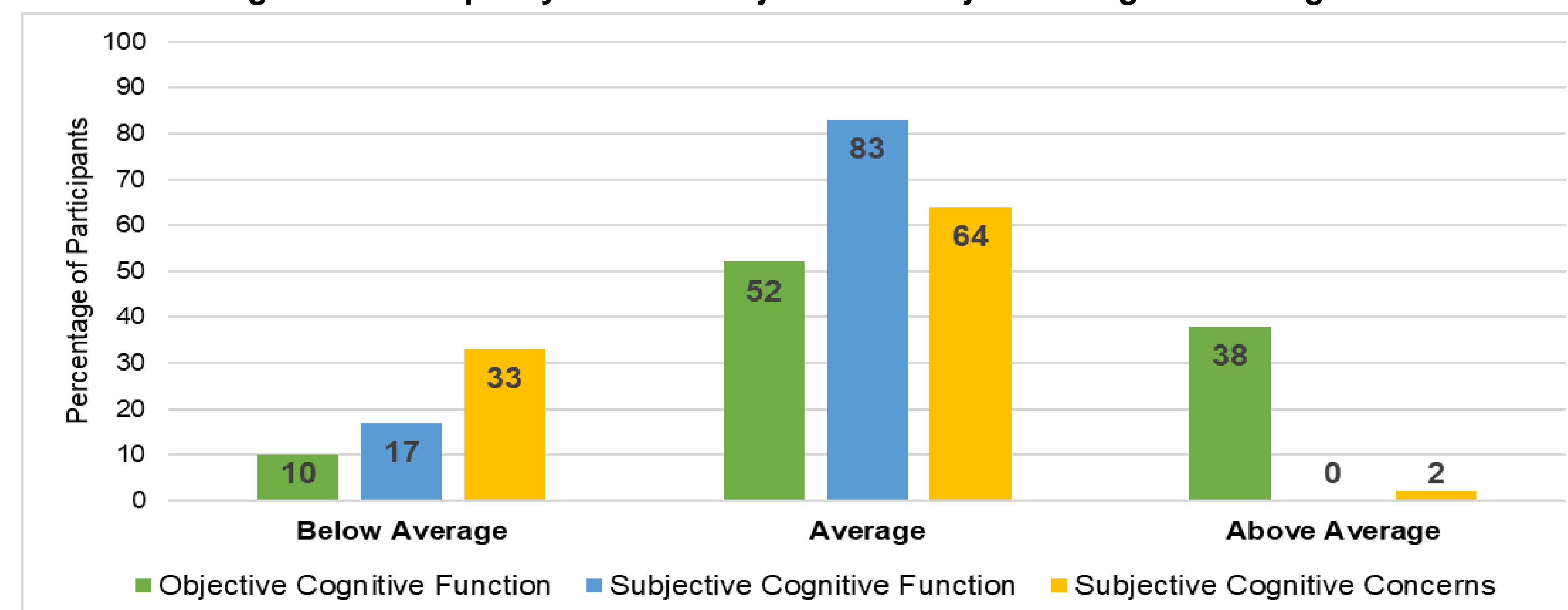


Figure 2. Correlation: objective cognitive function & subjective cognitive abilities scaled scores



No correlation was found between objective cognitive function and subjective cognitive concerns ($r = -0.074$) nor between objective cognitive function and subjective cognitive abilities ($r = 0.166$).

Figure 3. Discrepancy Between Objective & Subjective Cognitive Categories



Conclusions

Subjective cognitive function is not representative of objective cognitive function in breast cancer survivors.

Policy Implications

Subjective cognitive tests should not be used as an accurate description of cognitive function in breast cancer survivors.

Resources should be put into conducting more objective cognitive function tests to better determine the rates of cognitive decline/improvement in this population.

Acknowledgements

We would like to thank Dr. Sheri Hartman for providing the data for this study and Dr. Sally A.D. Romero for her support in our analysis.

The data used was from the Memory & Motion study which was supported by the National Cancer Institute.

References

- Hartman, S. J., Natarajan, L., Palmer, B. W., Parker, B., Patterson, R. E., & Sears, D. D. (2015). Impact of increasing physical activity on cognitive functioning in breast cancer survivors: Rationale and study design of Memory & Motion. *Contemporary clinical trials*, 45, 371–376.
- Hutchinson, A.D., Hosking J.R., Kichenadasse, G., Mattiske, J.K., & Wilson, C. (2012). *Cancer Treatment Reviews*, 38(7), 926-934.